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July 25, 2022

Mr. Thomas Mendez On-Scene Coordinator U.S. Environmental Protection Agency, Region 5 77 West Jackson Boulevard Chicago, Illinois 60604-3590

**Subject:** Oil Spill Emergency Response Summary Report, Revision 0

Spring Brook Marina Site – E22508 Seneca, LaSalle County, Illinois

EPA START Contract No.: 68-HE-0519-D0005

Task Order-Task Order Line Item No.: F0071-0001DE106

**Document Tracking No.: 1346** 

Dear Mr. Mendez:

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) is submitting the enclosed Oil Spill Emergency Response Summary Report, Revision 0 for the Spring Brook Marina Site – E22508 (the Site) for your review and comment. This report summarizes the oversight, air monitoring, and documentation activities conducted May 28 and May 29, 2022, at the Site in Seneca, LaSalle County, Illinois.

If you have any questions regarding this report, please contact me at (312) 201-7407 or via e-mail at Kirsten.Myles@TetraTech.com.

Sincerely,

Kirsten Myles Project Manager

Enclosure

cc: TOLIN file

Chris Burns, Tetra Tech

#### OIL SPILL EMERGENCY RESPONSE SUMMARY REPORT

#### SPRING BROOK MARINA SITE – E22508 SENECA, LASALLE COUNTY, ILLINOIS

#### Revision 0

#### Prepared for:

#### **U.S. Environmental Protection Agency**

Superfund and Emergency Management Division Region 5 77 West Jackson Boulevard Chicago, Illinois 60604-3590

Prepared by:

#### Tetra Tech, Inc.

1 South Wacker Drive, 37th Floor Chicago, Illinois 60606

EPA Contract No.: 68-HE-0519-D0005 Task Order-Task Order Line Item No.: F0071-0001DE106 Document Tracking No.: 1346

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1.0 INTRODUCTION

Under Superfund Technical Assessment and Response Team (START) Contract Number (No.) 68-HE-

0519-D0005, Task Order-Task Order Line Item No. (TO-TOLIN) F0071-0001DE106, the U.S.

Environmental Protection Agency (EPA) tasked Tetra Tech, Inc. (Tetra Tech) Superfund Technical

Assessment and Response Team (START) to oversee oil spill emergency response (ER) activities, conduct

real-time air monitoring, and document site conditions at the Spring Brook Marina Site – E22508 (the Site).

The Site consisted of a recreational vessel that exploded, caught fire, and sank near a fuel dock at the Spring

Brook Marina located on the Illinois River in Seneca, LaSalle County, Illinois (Appendix A, Figures 1 and

2).

As part of ER activities, START submitted a site-specific Health and Safety Plan (HASP) (Tetra Tech

2022a), conducted oversight of the potentially responsible party (PRP)-lead response activities, conducted

mobile air monitoring, and documented ER activities with field notes and photographs. Tasks were

conducted in accordance with the START V Quality Assurance Project Plan (Tetra Tech 2022b).

This report is organized into the following sections:

Section 1.0 serves as the introduction and describes the organization of this report.

Section 2.0 summarizes the Site background.

Section 3.0 describes ER activities, including air monitoring.

Section 4.0 presents the conclusion, including a summary of ER activities.

Section 5.0 lists references cited throughout this report.

This report contains three appendices. Appendix A contains Site related figures, Appendix B contains

photographs documenting the ER activities, and Appendix C contains START field notes.

Spring Brook Marina Site - E22508 Oil Spill Emergency Response Summary Report, Revision 0 2.0 SITE BACKGROUND

The following sections specify the location and description of the Site and the initial situation.

2.1 Site Location and Description

The Site is located at 623 W. River Drive in the Village of Seneca, LaSalle County, Illinois (Appendix A,

Figures 1 and 2). Geographic coordinates at the approximate center of the Site are 41.299485 degrees north

latitude and 88.628085 degrees west longitude. The Site consists of the Spring Brook Marina at the Illinois

River mile marker (MM) 252. The Site is situated in a mixed residential, commercial, and agricultural area

and is south adjacent to the Illinois River, approximately 1 mile west of Illinois Route 170 (Appendix A,

Figure 2).

Spring Brook Marina operates as a marina and fueling station for recreational vessels along the Illinois River.

To the north of the Site is the Illinois River with agricultural and undeveloped land beyond. The Spring

Brook Marina consists of several warehouses, a restaurant, two harbors, and a fueling station. To the east of

the Site is the Illinois River and a harbor with a marina beyond. To the south of the Site is River Road with

residential properties, a pond, agricultural fields, and undeveloped land beyond. To the west of the Site is

agricultural fields and residential properties (Appendix A, Figure 2).

2.2 Initial Situation

On May 28, 2022, at approximately 1630 hours, a recreational vessel exploded, caught fire, and sank near

a fuel dock at the Spring Brook Marina located on the Illinois River in Seneca, Illinois. According to press

reports, 17 people were injured and transported to both local and regional hospitals. The incident resulted

in a release of fuel and oil to the Illinois River at MM 252. EPA and START responded to the scene to

oversee response activities, conduct air monitoring, and document response activities.

At approximately 1900 hours on May 28, 2022, the EPA On-Call Duty Officer activated START to assist

with providing oversight of the PRP-lead response activities, ER activity documentation, air monitoring,

and related plan development. The PRP, Spring Brook Marina, lead the response efforts. START personnel

mobilized to the Site at 2215 hours and met with the EPA On-Scene Coordinator OSC.

At 2253 hours, START calibrated two Honeywell MultiRAE Pro units equipped with sensors to monitor

for volatile organic compounds (VOCs) in parts per million (ppm), lower explosive limit percentage

(%LEL), percent oxygen (%O<sub>2</sub>), hydrogen sulfide (H<sub>2</sub>S) in ppm, and carbon monoxide (CO) in ppm, as

well as two UltraRAE3000 units to monitor for VOCs and benzene in ppm.

From 2300 hours to 0 hours, EPA, START, and a representative of the LaSalle County Emergency Management Authority conducted an initial air monitoring assessment upwind and downwind of the sunken vessel. Measurements collected by the MultiRAE Pro and UltraRAE 3000 units are provided in the logbook in Appendix C. When gusts of wind came from the direction of the sunken vessel, a burnt material and petrochemical-like odor was observed. These odors were accompanied by VOC detections above background (0 ppm); however, the values were not sustained for a period greater than one minute (Appendix C). H<sub>2</sub>S and CO were not detected above background levels (0 ppm H<sub>2</sub>S and 0 ppm CO) throughout response activities. No concentrations of O<sub>2</sub> were detected below 19.5% or above 23.5% and atmospheric concentrations of flammable vapors were not detected above 0% of the LEL throughout response activities. Upon detection of elevated VOC concentrations, START, EPA, and emergency management collected measurements of benzene concentrations using an UltraRAE3000 (Appendix C). During this monitoring event, VOC concentrations ranged from 0 ppm to 11 ppm and benzene concentrations ranged from 0 ppm to 4.4 ppm (Appendix C). However, nearby generator-powered flood lights were emitting exhaust into the surrounding air and were suspected to contribute to elevated VOC and benzene readings. Air monitoring action levels based on direct-reading instruments and criteria for level of personal protective equipment (PPE) are included in the site-specific HASP (Tetra Tech 2022a).

At 2330 hours, EPA, START, and the LaSalle County Emergency Management Authority representative conducted a reconnaissance of the Site. During this reconnaissance, the sunken vessel encircled with oil booms deployed by the PRP was observed. Debris and a sheen appeared to be flowing from the sunken vessel and was contained within the booms (Appendix B; Appendix C). The sheen was cloudy and exhibited faint iridescence, indicating the likely presence of petroleum.

3.0 EMERGENCY RESPONSE ACTIVITIES

The following sections describe oversight of PRP-lead oil spill response activities and air monitoring during

the response.

3.1 **Potentially Responsible Party Oil Spill Response Activities** 

At 0530 hours on May 29, 2022, START returned to the Site with the EPA OSC, representatives of the

Seneca Fire Department, and representatives of the LaSalle County Emergency Management Authority. At

0554 hours, the EPA OSC tasked START to conduct air monitoring upwind and downwind of the sunken

vessel.

At 0635 hours, the PRP towing contractor, Tow Boat US, arrived at the Site. The towing contractor, PRP,

Seneca Fire Department, and LaSalle County Emergency Management Authority determined that the best

method to recover the sunken vessel would be to install a hard boom at the perimeter of the sunken vessel

oil booms, use divers to position and inflate lift bags beneath the sunken vessel, raise the vessel off the

riverbed, and then tow the raised vessel into a bay where a boat hoist could recover it. At 0655 hours, Tow

Boat US set a hard boom at the perimeter of the sunken vessel oil booms.

Between 0850 and 1000 hours, a three-person team of divers arrived at the Site. At 1020 hours, a health

and safety meeting was held. During the meeting, Tow Boat US confirmed that the dive team would raise

the vessel by placing and inflating lift bags. Tow Boat US also suggested that the cloudy sheen was being

released as a result of burned fiberglass from the vessel. At 1050 hours, two divers performed a safety dive

to assess damage to the sunken vessel and identify areas that presented a risk of underwater entanglement.

At 1100 hours, the dive team completed the safety dive.

At 1113 hours, the two divers reentered the water and began placing lift bags beneath the sunken vessel.

Upon secured placement of one lift bag on either side of the vessel, the bags were inflated with landside

pumps to raise the vessel from the riverbed. Pumps were powered by large generators that emitted exhaust

with a strong combusted diesel-like odor into the surrounding air. After inflating the placed lift bags, the

divers each retrieved an additional lift bag and repeated the placement and inflation process until the vessel

was raised from the riverbed. As the sunken vessel rose, pieces of burned debris broke off and a cloudy

faintly iridescent sheen surrounded them. The oil boom and hard boom perimeter successfully contained

all burn debris and most of the sheen that was released from the vessel.

Spring Brook Marina Site - E22508

Tetra Tech, Inc. TO-TOLIN: F0071-0001DE106

At 1334 hours, the dive team successfully installed and inflated enough lift bags to raise the sunken vessel off of the riverbed. The PRP then used a crane connected to the bow of the vessel to guide the vessel into a bay where a boat hoist was stationed. At 1400 hours, the PRP used the boat hoist to slowly lift the vessel from the bay. The crane and boat hoist emitted exhaust with a strong combusted diesel-like odor into the surrounding air. The vessel was lifted slowly to keep it intact and to minimize additional releases of debris into the Illinois River. As the vessel was lifted, pieces of burned debris occasionally broke off and a cloudy, faintly iridescent sheen was released from the pieces. The oil boom and hard boom perimeter successfully contained all burn debris and most of the sheen that was released from the burn debris.

At 1513 hours, the intact vessel was successfully lifted from the bay. The vessel was then placed upon a trailer and transported to another location for investigation. The PRP used nets to collect and remove debris gathered against the booms for disposal.

#### 3.2 Air Monitoring

The EPA OSC tasked START to conduct real-time air monitoring upwind and downwind of the sunken vessel in the breathing zone (3 to 5 feet above ground surface) using MultiRAE Pro and UltraRAE 3000 units. Neither H<sub>2</sub>S nor CO were detected above background levels (0 ppm H<sub>2</sub>S and 0 ppm CO) throughout response activities. No concentrations of O<sub>2</sub> were detected below 19.5% or above 23.5% and atmospheric concentrations of flammable vapors were not detected above 0% of the LEL throughout response activities. Air monitoring action levels based on direct-reading instruments and criteria for level of PPE are included in the site-specific HASP (Tetra Tech 2022a).

On May 29, 2022, at 0554 hours, START conducted air monitoring upwind and downwind of the sunken vessel. When gusts of wind came from the direction of the sunken vessel, burnt material, solvent-like, and petrochemical-like odors were observed. These odors were accompanied by VOC detections above background values that were not sustained for a period greater than one minute. During this monitoring event, VOC concentrations ranged from 0 ppm to 1.77 ppm (Appendix C).

While the dive team installed lift bags, START conducted breathing zone (3 to 5 feet above the ground surface) air monitoring upwind and downwind of the sunken vessel. At upwind locations, VOC detections ranged from 0 to 0.04 ppm and concentrations of 0.01 ppm were sustained for approximately five minutes. At downwind locations, VOC detections ranged from 0 to 0.36 ppm. Elevated concentrations of VOCs were detected when gusts of wind coming from the direction of the sunken vessel carried persistent burnt material, solvent-like, or petrochemical-like odors. When odors were observed, benzene concentrations were monitored. Benzene detections at downwind locations ranged from 0 to 0.35 ppm while the dive team

installed lift bags. Idling trucks, cars, heavy machinery as well as generators that were in use were potential sources of interference during this monitoring event.

Downwind air near the bay (0 to 2 feet above ground surface) and air in the breathing zone were monitored with MultiRAE Pro units while the vessel was being lifted with the boat hoist. At 1418 hours, sustained elevated concentrations of VOCs were observed downwind near the bay, peaking at 72 ppm. At 1425 hours, the MultiRAE Pro alarm sounded to signify the exceedance of a short term exposure limit (STEL) set at 25 ppm. Upon exceedance of the STEL for VOCs; disposable, flexible silicone tubing was attached to a MultiRAE Pro unit and draped into the bay in an attempt to collect measurements with minimal interference from surrounding heavy machinery. Exhaust from the boat hoist was still observed in the bay. In this area, VOCs concentrations ranged from 0.03 to 72 ppm and VOC detections above 1 ppm were sustained for approximately 13 minutes. Concurrently, downwind breathing zone VOC concentrations ranged from 0.007 to 1.07 ppm. Detections at or above 1 ppm were sustained for approximately five minutes. Upon observing sustained VOC concentrations exceeding 1 ppm in the downwind breathing zone, the crew downwind of the lifted vessel were instructed to stand clear or upwind of the vessel. Idling trucks and cars as well as heavy machinery and generators that were in use were potential sources of interference during this monitoring event.

Upon salvage of the vessel from the bay, START retrieved the MultiRAE Pro used for near-bay air monitoring and measured benzene concentrations using an UltraRAE 3000 in the downwind breathing zone. The measured benzene concentration was 5.11 ppm. Idling trucks and cars as well as heavy machinery and generators that were in use were potential sources of interference during this monitoring event. START confirmed that no crew members were standing downwind of the bay and reported the measurement to EPA. START then used the UltraRAE 3000 to assess concentrations of VOCs near where crew members were standing and observed VOC readings fall to background levels in these areas (0 ppm). START continued to observe the salvaged vessel from an upwind location.

At 1700 hours on May 29, 2022, EPA and START demobilized from the site after the successful salvage of the vessel from the bay.

#### 4.0 CONCLUSIONS

From 2215 on May 28, 2022, through 1700 on May 29, 2022, START provided ER support at the Spring Brook Marina Site – E22508, where a recreational vessel exploded, caught fire, and sank near a fuel dock at the Spring Brook Marina located on the Illinois River in Seneca, LaSalle County, Illinois. ER support included conducting oversight of the PRP-lead oil spill ER, conducting mobile air monitoring, and documenting ER activities with field notes and photographs.

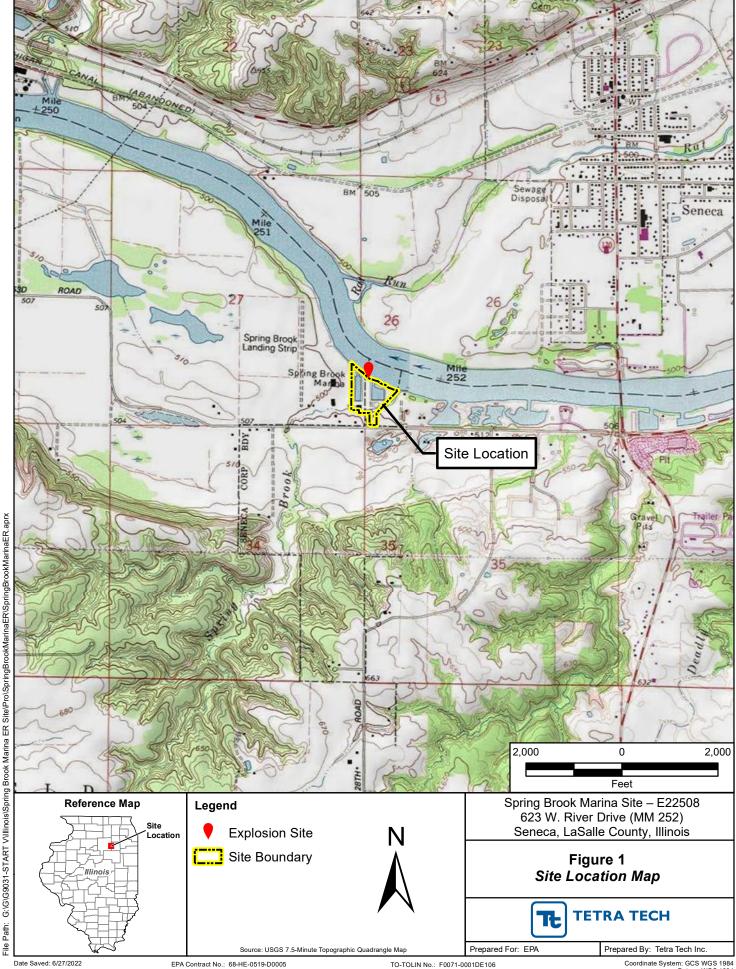
START conducted oversight of PRP-lead oil spill response efforts which included raising the sunken vessel from the riverbed using divers and lift bags, towing the vessel into a bay, and using a boat hoist to lift the vessel from the Illinois River and onto a trailer for further investigation.

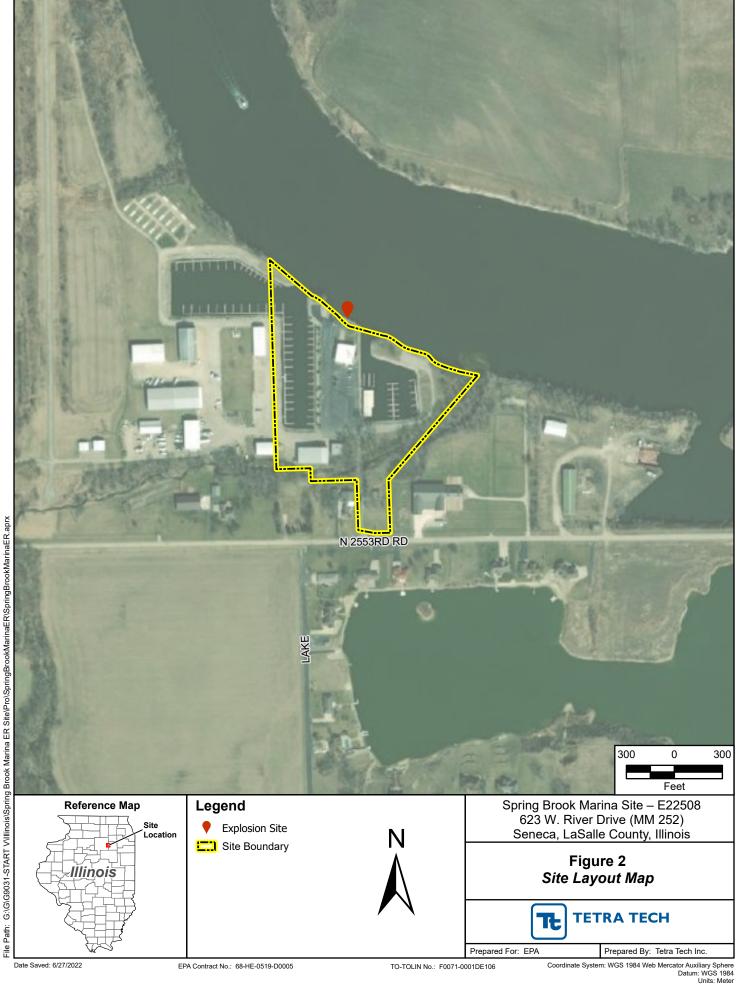
#### **5.0 REFERENCES**

Tetra Tech, Inc. (Tetra Tech). 2022a. "Health and Safety Plan for the Seneca Boat Explosion." May.

Tetra Tech. 2022b. "Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), Contract No. 68-HE-0519-D0005, U.S. Environmental Protection Agency, Region 5. Revision 3." January.

# APPENDIX A SITE FIGURES





Date Saved: 6/27/2022

EPA Contract No.: 68-HE-0519-D0005

TO-TOLIN No.: F0071-0001DE106

# APPENDIX B PHOTOGRAPHIC DOCUMENTATION



Location: Seneca, LaSalle County, IL

## **Photographic Documentation**

Prepared by: Kirsten Myles

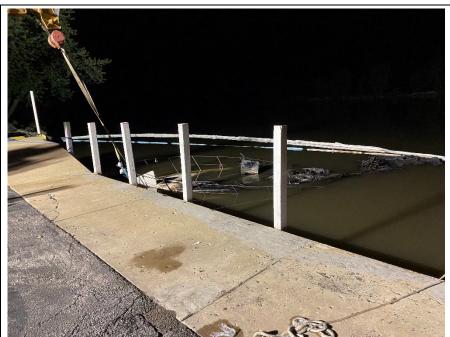
**TO-TOLIN Number:** F0071-0001DE106

**Dates:** May 28 to May 29, 2022

#### Photograph No. 1

Date: 5/28/2022

**Description:** View of the sunken vessel in the Illinois River. Oil booms deployed by the potentially responsible party (PRP), Spring Brook Marina, as well as a crane holding on to the bow of the vessel are visible.



#### Photograph No. 2

**Date:** 5/29/2022

**Description:** View of the oil booms and captured debris.





Location: Seneca, LaSalle County, IL

## **Photographic Documentation**

Prepared by: Kirsten Myles

**TO-TOLIN Number:** F0071-0001DE106

**Dates:** May 28 to May 29, 2022

## Photograph No. 3

**Date:** 5/29/2022

**Description:** View of the PRP's contractor, Tow Boat US, installing a hard boom along the perimeter of the oil booms.



#### Photograph No. 5

**Date:** 5/29/2022

**Description:** View of the deflated lift bags ready for use as the dive team concludes their safety dive.





Location: Seneca, LaSalle County, IL

## Photographic Documentation Prepared by: Kirsten Myles

**TO-TOLIN Number:** F0071-0001DE106

**Dates:** May 28 to May 29, 2022

## Photograph No. 6

**Date:** 5/29/2022

**Description:** View of the vessel raised from the riverbed using inflated lift bags.



## Photograph No. 7

**Date:** 5/29/2022

**Description:** View of the vessel attached to the hoist in the bay in preparation for removal.





Location: Seneca, LaSalle County, IL

## Photographic Documentation Prepared by: Kirsten Myles

**TO-TOLIN Number:** F0071-0001DE106

**Dates:** May 28 to May 29, 2022

## Photograph No. 8

Date: 5/29/2022

**Description:** View of the retrieved vessel being placed on a trailer.



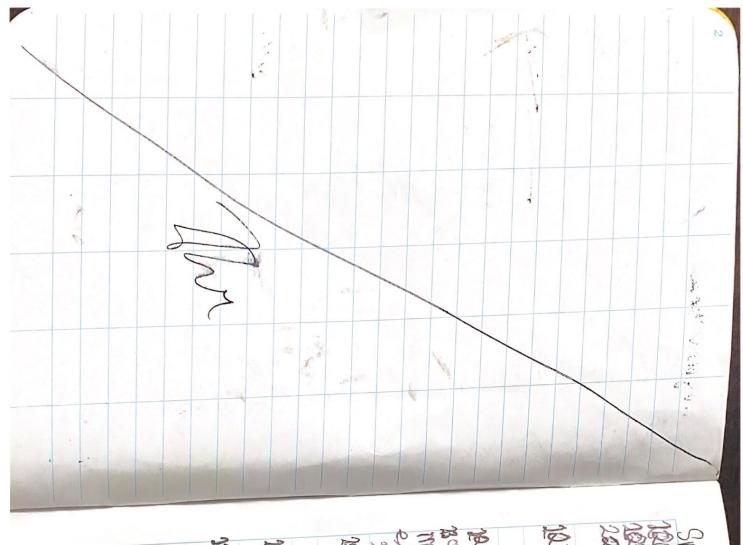
## Photograph No. 4

**Date:** 5/29/2022

**Description:** View of the PRP contractor, Tow Boat US, using nets to remove debris from the Illinois River.



APPENDIX C FIELD NOTES



majour are quality permitted at sole of Spring Brook Marina explosion, Parameters include: BILL BRELIEF OBOR (SURLIT / PETROL) MOS BRUEF PETROL LAREMICAL OPER "BUYBEN MIEC HIS CO AND VOC 318 BRIEF ODOR PID: C. Gppm -11 April 1320 BENEAUE TEST-STATOT ARMONES FRIZIR. BRIET ODER (BURIST MATERIALAND RETAIN ALL MYLTITAR CAUSORTED AFTER REPEATED CALIBRATION START AMOUNTS AT SITE OF SPLL WETRE READINGS GOV-037 START CHANGES SECUSOR ON AMUNICA ONA GENTIOSSO PID: 3,000 ppo - 2,820 ppb ELEVATED FEADILUGS ARE NOT THUS MUTTIRAE SURPRIED FOR TOURING THEY S SECOLDS - ODORS COME WHAT WHAT CATRICATION CONTRACTION N SENDIAMINE ASSESS RUEADW68: 65 ppl 4.4 pan AND TWO WITHAR 5 28 2022 Rite in the Kain

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